## REMARKS

Reconsideration of the Application respectfully is requested. For the reasons indicated in detail hereafter, the Application, particularly as amended herein, is urged to be in condition for allowance. A Declaration Under 37 C.F.R. § 1.132 of Takayuki Miyashita and a Petition for Extension of Time (one month) with the appropriate fee are being filed concurrently herewith.

Research conducted by Applicants resulted in the discovery that forms the specifically claimed subject matter of the present invention. It was surprisingly discovered that molded articles formed from liquid crystal polymers display improved resistance to warpage when filled with plate-shaped fillers that meet the parameters specified in detail in Applicants' claims. Such concept is totally lacking in the reasonably derived teachings of the prior art. See in this regard the Examples and Comparative Examples presented at Pages 11 to 14 of Applicants' Specification with particular reference to the data provided in Table 1 at Page 14, as well as the data presented in the Declaration Under 37 C.F.R. § 1.132 that is filed herewith. *The specified filler must be plate-shaped, have an average particle diameter of 0.5-100 μm, possess a D/W ≦ 5, and the a dimensional relationship of 3 ≦W/H ≦ 200 must be satisfied.* These stringent claim limitations that are shown to impart dramatic and surprisingly improved warpage results in a molded article are totally absent in the teachings of the prior art. Applicants' claim parameters specify three critical dimensions for the filler that go beyond a specification of aspect ratio. Additionally, there is no hint or suggestion in the reasonably derived teachings of the references that Applicants' improved warpage results would ever be possible under any

circumstances. It further is significant that the improved warpage character is made possible without notably decreasing the mechanical properties.

Dependent claim 19 is canceled without prejudice. New dependent Claim 21 is presented that specifies particularly preferred parameters for the plate-shaped filler (B). Direct support for the subject matter of dependent Claim 21 is found in Table 1, at Page 14 of Applicants' Specification.

Applicants are dismayed that the rejection of claims under 35 U.S.C. § 112, first paragraph, was repeated. Applicants' teachings could in fact readily be carried out by those of ordinary skill in the art following a reading of Applicants' Specification. The dimensional parameters of the plate-shaped filler are indeed specified with particularity. Filler materials of a vast array of dimensional parameters are already known and are publicly available through established commercial channels. When practicing the claimed invention those skilled in the art select appropriate plate-shaped fillers from among the myriad of available particulate materials that satisfy the specific claim parameters. There is no reasonable basis to allege that the claimed subject matter is not enabled under these circumstances. Applicants have never alleged that they are the first to provide a plate-shaped filler (B) that has been found to provide surprising results in the context of the present invention. Once armed with Applicants' teachings with respect the requisite filler dimensions in three directions, those of ordinary skill in the area of filler technology could select and/or classify and provide filler particles according to the dimensions specified by Applicants in a straightforward manner using know and readily available particle characterization procedures. Since the rejection is lacking any basis in fact its withdrawal is urged to be in order and respectfully is requested.

In an effort to expedite prosecution Claim 1 is amended as suggested by the Examiner at Page 8 of the Official Action. The claims now express in greater detail that the plate-shaped filler must satisfy formulae (1) and (2) as well as have an average particle diameter of 0.5-109 μm. These formulae must apply exclusively to the plate-shaped filler in view of the express wording of the claim. It further is reiterated that the expressed dimensions of the plate-shaped filler (B) are constant and are the same before and after being provided in the composition. There is a surprisingly improved warpage character in the absence of a noticeable decrease in mechanical properties when an appropriate filler selection is combined with the liquid crystal polymer (A) in accordance with the concept of Applicants' specifically-claimed contribution. The withdrawal of the rejection is in order and respectfully is requested.

The rejection of Claims 1 to 4, 6 to 9, 16 to 18 and 20 under 35 U.S.C. § 102(b) as being anticipated by the teachings of U.S. Patent No. 5,085,807 to Okamoto et al. is without a sound basis in fact. Applicants readily acknowledge that various liquid crystal polymers are known in the art and a wide variety of fillers have been suggested for use therein when forming molded articles prior to the research of Applicants. It should be recognized by all that there is absolutely no teaching in Okamoto et al. of providing a plate-shaped filler having dimensions as specified in detail in Applicants' claims. A flame retardant of a bromine-containing polymer or an organic phosphorus compound having a diameter of not more than 2.5 μm is dispersed. This is not the presently claimed concept. The withdrawal of the rejection is in order and respectfully is requested.

The continued rejection of Claims 1 to 4, 6 to 9, 16 to 18 and 20 under 35 U.S.C. § 102(b) as being anticipated by the teachings of U.S. Patent No. 5,804,634

to Umetsu et al. likewise is incapable of withstanding detailed analysis for the same reason. There is absolutely no teaching in Umetsu et al. of providing a plate-shaped filler having dimensions as specified in detail in Applicants' claims. Aspect ratio only is specified and not a three-dimensional configuration of a plate-shaped particle as specified in formulae (1) and (2) of Applicants' claims. Glass fibers are employed in all of the examples. The parameters of Applicants' specifically-defined contribution are absent and is not even remotely suggested. The withdrawal of the rejection is in order and respectfully is requested.

The continued rejection of Claims 1 to 4, and 8 to 9 under 35 U.S.C. § 102(b) as being anticipated by the teachings of U.S. Patent No. 5,851,688 to Sandor et al. likewise is incapable of withstanding detailed analysis for the same reason. There is absolutely no teaching in Sandor et al. of providing a plate-shaped filler having dimensions as specified in detail in Applicants' claims. The withdrawal of the rejection is in order and respectfully is requested.

It is not appropriate to disregard the statutory language of 35 U.S.C. § 102. Patentability is negated under 35 U.S.C. § 102 only when the prior disclosure is identical to the invention sought to be patented. Each and every element of the claimed invention must be disclosed in a single reference in complete detail. See Akzo N.V. v. United States ITC, 808 F.2d 1471, 1 U.S.P.Q.2d 1241 (Fed. Cir. 1986); Orthokinetics. Inc. v. Safety Travel Chairs. Inc., 806 F.2d 1565, 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986); Rolls-Royce Ltd. v. GTE Valeron Corp., 800 F.2d 1101, 231 U.S.P.Q. 185 (Fed. Cir. 1986); Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 230 U.S.P.Q. 81 (Fed. Cir. 1986); Great Northern Corp. v. Davir Core & Pad Co., 782 F.2d 159, 228 U.S.P.Q. 356 (Fed. Cir. 1986); In re Donohue, 766 F.2d 531,

226 U.S.P.Q. 619 (Fed. Cir. 1985); W.L. Gore & Assoc. v. Garlock, Inc., 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983); SSIH Equip. S.A. v. United States ITC, 713 F.2d 746, 218 U.S.P.Q. 678 (Fed. Cir. 1983); and Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989).

Finally, the rejection of Claims 1 to 20 as being directed to obvious subject matter in view of the inadequate teachings of either U.S. Patent No. 5,085,807 to Okamoto et al. or U.S. Patent No. 5,268,410 to Yamada et al. or alternatively Yamada et al. in view of Okamoto et al. will not withstand detailed analysis. There is found absolutely no teaching in Yamada et al. of the incorporation of a plate-shaped filler having parameters in three dimensions as presently claimed. Further, there is no teaching or even a remote suggestion how one could improve warpage resistance in a molded article as documented in Applicants' Specification or of the surprisingly advantageous results achieved by Applicants and reported in Table 1 at Page 14 and in the Declaration Under 37 C.F.R. § 1.132 that is filed herewith. Even if the reasonably derived teachings of the references were combined, Applicants' specifically-claimed contribution still would not be provided. The prerequisites for maintaining a rejection under 35 U.S.C. § 103 have not been identified and are incapable of identification. A showing of unobviousness results is of record and any *prima facie* allegation of obviousness is rebutted. The withdrawal of the 35 U.S.C. § 103 rejection is urged to be in order and respectfully is requested.

If there is any remaining point that requires clarification prior to the allowance of the application, the Examiner is urged to telephone the undersigned attorney so that the matter can be discussed and resolved at a personal interview.

Respectfully submitted,

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IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: Takayuki MIYASHITA et al.

For: Liquid crystal polymer compositions

Serial No.: 10/089 183 Group: 1756

Filed: March 27, 2002 Examiner: J. R. Sadula

Confirmation No. 5114

Attorney docket No.: 009760-016

The Commissioner of Patents
P.O.Box 1450
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**DECLARATION UNDER 37 CFR 1.132**

I, Takayuki MIYASHITA, hereby declare as follows:

I am one of the co-inventors of the invention described and claimed in application Serial No. 10/089 183 filed March 27, 2002.

I have carried out additional tests procedures and results of which are described below.

Comparative Example 7 and 8

A liquid crystal composition was prepared, pelletized, molded into test pieces and tested in the same way as Example 1 disclosed in the patent application Serial No. 10/089 183 except for using the filler(s) shown in Table 2, hereto attached. Test results are shown in Table 2, hereto attached, together with the data of Table 1 of the application.

It is noted from the test results that Comparative Example 7 was inferior to Example 2 in view of prevention of warping. Comparative Example 8 was inferior to Example 1 in view of prevention of warping.

I hereby declare that all statements made herein of any own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United State Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: May 24, 2004

Takayuki Miyashita

Takayuki MIYASHITA

Attachment: Table 2

Table 2

| | (A) LCP (parts by weight) | Filler (parts by weight) | | | Average particle size of (B) plate-shaped filler (μm) | Shape of (B) plate-shaped filler | | Tensile test | | Flexural test | | Flatness of flat plate (mm) | Warp of connector shape (mm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (B) plate-shaped | (C) fibrous | others | | D/W | W/H | Tensile strength (MPa) | Tensile elongation (%) | Flexural strength (MPa) | Flexural modulus (MPa) | | |
| Ex. 1 | 100 | talc 50 | | | 10.5 | 1.1 | 12 | 119 | 2.8 | 158 | 13900 | 0.12 | 0.269 |
| Comp. Ex. 1 | 100 | | GF 50 | | - | - | - | 178 | 2.0 | 240 | 21400 | 0.89 | 0.545 |
| Ex. 2 | 100 | talc 60 | GF 20 | | 10.1 | 1.1 | 11 | 120 | 2.5 | 160 | 14700 | 0.10 | 0.230 |
| Ex. 3 | 100 | talc 20 | GF 30 | | 9.8 | 1.0 | 11 | 140 | 2.7 | 202 | 16700 | 0.07 | 0.230 |
| Ex. 4 | 100 | fine talc 20 | GF 30 | | 1.3 | 1.3 | 4 | 137 | 2.8 | 191 | 16700 | 0.18 | 0.220 |
| Ex. 5 | 100 | mica 20 | GF 30 | | 19.2 | 1.5 | 42 | 138 | 2.5 | 199 | 17300 | 0.20 | 0.272 |
| Ex. 6 | 100 | kaolin 20 | GF 30 | | 5.0 | 1.2 | 7 | 135 | 2.6 | 189 | 16500 | 0.25 | 0.270 |
| Ex. 7 | 100 | graphite 20 | GF 30 | | 15.5 | 1.2 | 21 | 132 | 2.7 | 187 | 16200 | 0.35 | 0.285 |
| Ex. 8 | 100 | wollastonite 20 | GF 30 | | 5.0 | 2.4 | 3 | 132 | 2.8 | 190 | 16800 | 0.32 | 0.232 |
| Comp. Ex. 2 | 100 | wollastonite 20 | GF 30 | | 20.3 | 5.0 | 1.2 | 140 | 2.5 | 210 | 17700 | 0.95 | 0.319 |
| Comp. Ex. 3 | 100 | wollastonite 20 | GF 30 | | 89.5 | 8.4 | 3 | 147 | 2.3 | 223 | 18500 | 0.89 | 0.332 |
| Comp. Ex. 4 | 100 | | GF 30 | spherical silica 20 | - | - | - | 139 | 2.5 | 202 | 17700 | 12.13 | 0.360 |
| Comp. Ex. 5 | 100 | | GF 30 | titanium oxide 20 | - | - | - | 136 | 2.6 | 183 | 15200 | 4.42 | 0.471 |
| Comp. Ex. 6 | 100 | | GF 30 | calcium pyrophosphate 20 | - | | - | 140 | 2.6 | 202 | 17200 | 8.55 | 0.378 |
| Comp. Ex. 7 | 100 | talc 60 | GF 20 | | 22 | 1.2 | 2 | 110 | 2.6 | 138 | 14500 | 0.75 | 0.342 |
| Comp. Ex. 8 | 100 | talc 50 | | | 21 | 1.1 | 1.8 | 108 | 2.8 | 135 | 12900 | 0.68 | 0.353 |

*GF: glass fiber having an average fiber diameter of 10 μm, and an aspect ratio of 40